Amendments of the Claims:

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by strikethrough (for deleted matter) or underlined (for added matter).

1. (Currently Amended) A method of producing parts from powdered metal comprising the steps of:

a) providing a metallurgic powder comprising iron, ~~0-1.5~~ 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, and 0-0.5 weight percent manganese, ~~and 0-1.5 weight percent copper~~, the weight percentages calculated based on the total weight of the powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a green compact;

c) heating the compact to 2100°F to 2400°F for 20 to 60 minutes;

d) holding the compact between 1000°F to 1900°F for 5 to 60 minutes, then cooling the compact to room temperature, such that microstructure of the compact becomes mainly Pearlite;

e) increasing the density of at least a portion of the compact to greater than 7.6g/cc;

f) heating the compact to 1650°F to 2100°F for 20 to 80 minutes;

g) cooling the compact at a rate of 150°F to 250°F per minute; and

h) heating the compact to 300°F to 1000°F for 30 to 90 minutes, such that the microstructure of the compact becomes tempered martensite, 0 to 20% bainite, and less than 5% retained austenite and has a hardness of 27 to 50 HRC.

2. (Original) The method of claim 1, wherein the parts are sprockets.

3. (Original) The method of claim 2, wherein the sprockets have a tooth density of 6.75g/cc to 7.25g/cc.

4. (Original) The method of claim 1, wherein the step of compressing the metallurgic powder produces a compact with a density of 6.4g/cc to 7.4 g/cc.

5. (Original) The method of claim 1, wherein the compact is heated in step c) to a temperature of 2300°F for 40 minutes.

6. (Currently Amended) The method of claim 1, wherein the compact is held in step d) at a temperature between 1000°F to ~~1800°F~~ 1900°F.

7. (Cancelled)

8. (Original) The method of claim 1, wherein the compact is not subjected to additional cooling or heating between steps c) and d).

9. (Original) The method of claim 8, wherein the compact produced in step c) has a critical temperature and in step d) is held below the critical temperature.

10. (Original) The method of claim 8, wherein the compact produced in step c) has a critical temperature and in step d) is held at the critical temperature.

11. (Original) The method of claim 1, wherein the Pearlite may be spheroidized.

12. (Currently Amended) A method of producing parts from powdered metal comprising the steps of:

a) providing a metallurgic powder comprising iron, , ~~0-1.5~~ 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, and 0-0.5 weight percent manganese, ~~and 0-1.5 weight percent copper~~, the weight percentages calculated based on the total weight of the powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a compact with a density of 6.4 to 7.4 g/cc;

c) heating the compact to 2100°F to 2400°F for 20 to 60 minutes and cooling the compact to room temperature;

d) heating the compact to 1650°F to 2100°F for 20 to 80 minutes;

e) cooling the compact at a rate of 150°F to 250°F per minute; and

f) heating the compact to 300°F to 1000°F for 30 to 90 minutes.

13. (Original) The method of claim 12, wherein the compact is heated in step c) is to a temperature of 2300°F for 40 minutes.

14. (Currently Amended) A method of producing parts from powdered metal comprising the steps of:

a) providing a metallurgic powder comprising iron, ~~0-1.5~~ 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, and 0-0.5 weight percent manganese, ~~and 0-1.5 weight percent copper,~~ the weight percentages calculated based on the total weight of the powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a compact with a density if 6.4 to 7.4 g/cc;

c) heating the compact to 1650°F to 2100°F for 20 to 80 minutes;

d) cooling the compact at a rate of 150°F to 250°F per minute; and

e) heating the compact to 300°F to 1000°F for 30 to 90 minutes.

15. (New) A method of producing parts from powdered metal comprising the steps of:

a) providing a metallurgic powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a green compact;

c) heating the compact to 2100°F to 2400°F for 20 to 60 minutes;

d) holding the compact between 1000°F to 1900°F for 5 to 60 minutes, then cooling the compact to room temperature, such that microstructure of the compact becomes mainly Pearlite;

e) increasing the density of at least a portion of the compact to greater than 7.6g/cc;

f) heating the compact to 1650°F to 2100°F for 20 to 80 minutes;

g) cooling the compact at a rate of 150°F to 250°F per minute; and

h) heating the compact to 300°F to 1000°F for 30 to 90 minutes, such that the microstructure of the compact becomes tempered martensite, 0 to 20% bainite, and less than 5% retained austenite and has a hardness of 27 to 50 HRC.

16. (New) The method of claim 15, wherein the metallurgic powder is comprised of iron, 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, 0-0.5 weight percent manganese, and 0-1.5 weight percent copper, the weight percentages calculated based on the total weight of the powder.

17. (New) The method of claim 15, wherein the parts are sprockets.

18. (New) The method of claim 17, wherein the sprockets have a tooth density of 6.75g/cc to 7.25g/cc.

19. (New) The method of claim 15, wherein the step of compressing the metallurgic powder produces a compact with a density of 6.4g/cc to 7.4 g/cc.

20. (New) The method of claim 15, wherein the compact is heated in step c) to a temperature of 2300°F for 40 minutes.

21. (New) The method of claim 15, wherein the compact is held in step d) at a temperature between 1000°F to 1900°F.

22. (New) The method of claim 15, wherein the compact is not subjected to additional cooling or heating between steps c) and d).

23. (New) The method of claim 22, wherein the compact produced in step c) has a critical temperature and in step d) is held below the critical temperature.

24. (New) The method of claim 22, wherein the compact produced in step c) has a critical temperature and in step d) is held at the critical temperature.

25. (New) The method of claim 15, wherein the Pearlite may be spheroidized.

26. (New) A method of producing parts from powdered metal comprising the steps of:

a)providing a metallurgic powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a compact with a density of 6.4 to 7.4 g/cc;

c) heating the compact to 2100°F to 2400°F for 20 to 60 minutes and cooling the compact to room temperature;

d) heating the compact to 1650°F to 2100 °F for 20 to 80 minutes;

e) cooling the compact at a rate of 150°F to 250 °F per minute; and

f) heating the compact to 300°F to 1000°F for 30 to 90 minutes.

27. (New) The method of claim 26, wherein the metallurgic powder comprises iron, 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, 0-0.5 weight percent manganese, and 0-1.5 weight percent copper, the weight percentages calculated based on the total weight of the powder.

28. (New) The method of claim 26, wherein the compact is heated in step c) is to a temperature of 2300°F for 40 minutes.

29. (New) A method of producing parts from powdered metal comprising the steps of:

a) providing a metallurgic powder;

b) compressing the metallurgic powder at a pressure of 25 to 65 tsi to provide a compact with a density if 6.4 to 7.4 g/cc;

c) heating the compact to 1650°F to 2100 °F for 20 to 80 minutes;

d) cooling the compact at a rate of 150°F to 250 °F per minute; and

e) heating the compact to 300°F to 1000°F for 30 to 90 minutes.

30. (New) The method of claim 29, wherein the metallurgic powder comprises iron, 0.1-0.8 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, 0-0.5 weight percent manganese, and 0-1.5 weight percent copper, the weight percentages calculated based on the total weight of the powder.

31. (New) The method of claim 1, wherein the metallurgic powder further comprises 0-1.5 weight percent copper.

32. (New) The method of claim 12, wherein the metallurgic powder further comprises 0-1.5 weight percent copper.

33. (New) The method of claim 14, wherein the metallurgic powder further comprises 0-1.5 weight percent copper.